Robust CAP
Web Interface
(RCWI)

Thor Design Panel 3

84K-01900-010

Nov. 13, 1997
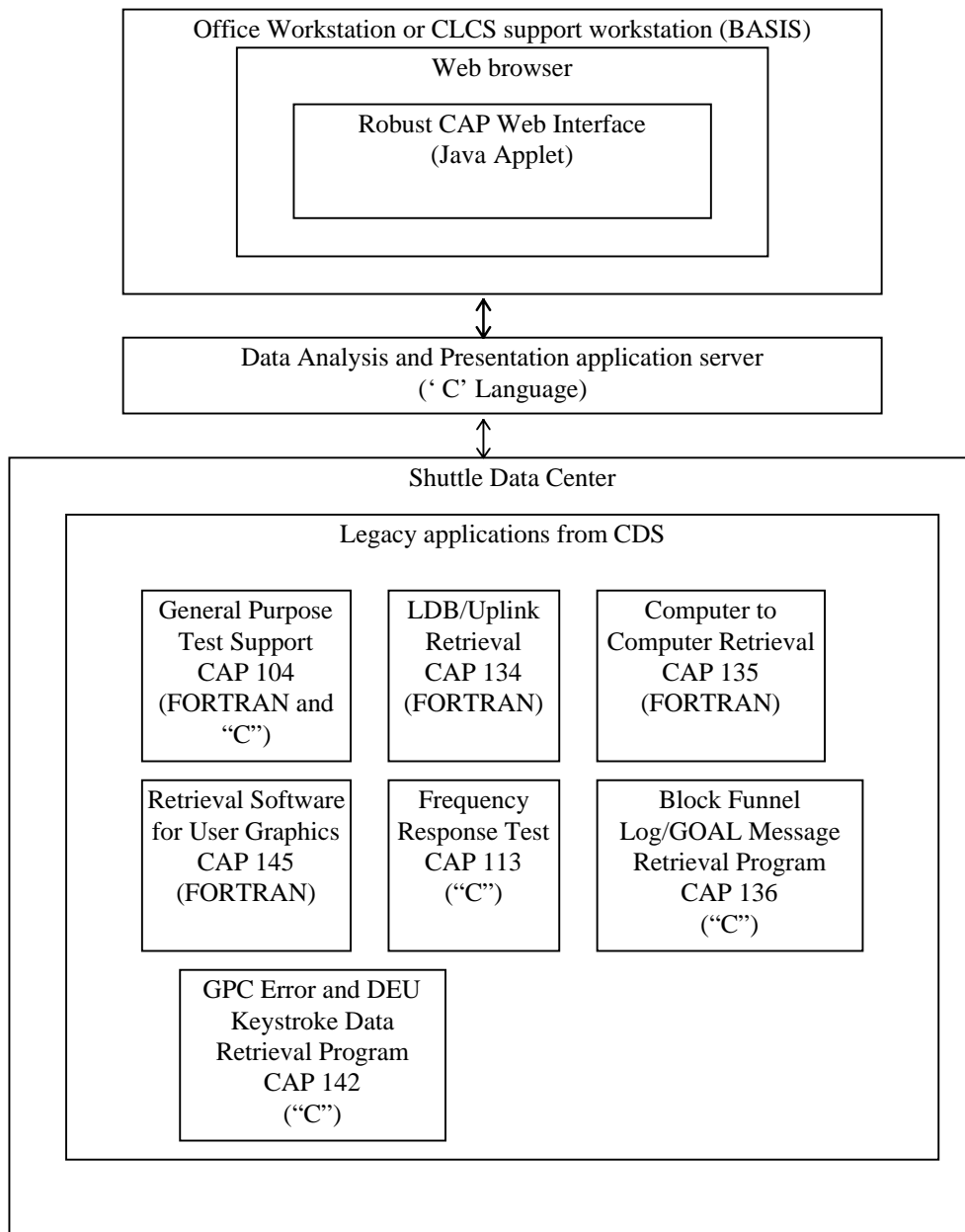
Version 1.3

1. Robust CAP Web Interface

1.1 Robust CAP Web Interface Introduction

1.1.1 Robust CAP Web Interface Overview

The *Robust CAP Web Interface (RCWI)* supports the Graphical User Interface (GUI) development for the CAP 104, 134, 135, 145, 113, 136, 142 applications which run on the SDC. The GUI will provide access to the *Computer Application Programs (*CAP) via the *Business And Support Information Service (BASIS)* on the *Checkout and Launch Control System* (CLCS) or an office workstation running a Web browser. CAP 104, 134, 135, 145, 113, 136 and 142 are the initial CAP applications to be converted, others will follow after Thor. CAP 104, 134, 135 and 145 were developed and released as a pathfinder for Redstone. These CAPs will be enhanced for Thor while CAP 113, 136 and 142 will be new for Thor.

Office Workstation or CLCS support workstation (BASIS)

Web browser

Robust CAP Web Interface
(Java Applet)

↕

Data Analysis and Presentation application server
(' C' Language)

↕

Shuttle Data Center

Legacy applications from CDS

General Purpose Test Support CAP 104 (FORTRAN and "C")	LDB/Uplink Retrieval CAP 134 (FORTRAN)	Computer to Computer Retrieval CAP 135 (FORTRAN)
Retrieval Software for User Graphics CAP 145 (FORTRAN)	Frequency Response Test CAP 113 ("C")	Block Funnel Log/GOAL Message Retrieval Program CAP 136 ("C")

GPC Error and DEU Keystroke Data Retrieval Program CAP 142 ("C")

1.1.2 Robust CAP Web Interface Operational Description

The RCWI will accept a CAP command, a TCID, start and stop parameters for date and time and function designators via a user friendly GUI residing on either a user workstation or the BASIS which makes extensive use of pull down menus with point and click mouse movements.   The data can be retrieved from either CDS or SDC. The parameters are forwarded to a *Data Analysis and Presentation (*DAP) application server and formatted for interpretation by the selected CAP. The selected CAP residing on SDC is then initialized and executes the requested command. The data is either sent to the display or printer complying with the user request.

1.2 Robust CAP Web Interface Specification

1.2.1 Robust CAP Web Interface Groundrules

- The CDS rehosted programs CAP 104, 113, 134,135,136, 142 and 145 from the CDS to the SDC will be ported and tested by the USA Data Analysis and Presentation group.
- The RCWI is not responsible for the CAP, only the GUI to them.
- The RCWI will have capability to print retrieved data if it is displayed in a window. The CAP will control where data is sent (e.g. disk, monitor display or printer).
- All software development toolsets and COTS software will be baselined to support Java Development Kit (JDK) 1.1 from Sun Microsystems.
- The RCWI is not responsible for the functionality of the CAPs (e.g.: data source and processing of the data).
- RCWI does not support all forms of recorded data. Support is provided as depicted in the table referenced under the "Supported Data Interfaces" section of this document.
- Performance is dependent upon the CAP software running on SDC.
- The RCWI will require small modifications to some CAPs. These modifications will not interfere with porting of the CAPs to SDC.
- RCWI is NOT available from the CLCS Command and Control workstation.
- RCWI does NOT support SDC CLCS historical data.
- RCWI is dependent upon Test Build to obtain TCID, FD name and nomenclature.

1.2.2 Robust CAP Web Interface Functional Requirements

The functional requirements for RCWI are arranged in the following major functions:

1. Supported Tool Sets
2. Supported Environments
3. Supported Data Interfaces
4. DAP application Main Menu
5. DAP application server - interface between RCWI and CAPs residing on the SDC
6. CAP 113 - Frequency Response Test
7. CAP 136 - Block Funnel Log/GOAL Message Retrieval Program
8. CAP 142 - GPC Error and DEU Keystroke Data Retrieval Program
9. CAP 145 - Retrieval Software for user graphics
10. CAP 135 - Computer-to-computer Retrieval Programs
11. CAP 134 - LDB/Uplink Retrieval
12. CAP 104 - General Purpose Test Support

1 Supported Tool Sets

1.1 RCWI shall be developed using JDK 1.1 higher.

1.2 RCWI shall be executed using Web browsers which support JDK 1.1 (e.g. Internet Explorer 4.0 or Netscape Communicator) or higher.

2 Supported Environment

1.1 RCWI shall execute in CLCS Support Workstations.

1.2 RCWI shall execute in Office Workstations.

1.3 RCWI shall be capable of executing from other NASA centers.

3 Supported Data Interfaces

1.1 RCWI shall use SDC CCMS Historical Data.

1.2 RCWI shall use CDS CCMS Historical Data.

1.3 RCWI (GUI applications) shall provide capability to process data sources as described in appendix A.

Computer Application Program Data Sources (Support for Thor)

	CDS CCMS Historical	SDC CCMS Historical	SDC CLCS Historical	SDS CCMS Real-time	SDS' CCMS et al Real-time	SCAN Server CCMS Real-time	SDS CLCS Real-time
CAP 104	✓	✓					
CAP 113	✓	✓					
CAP 134	✓	✓					
CAP 135	✓	✓					
CAP 136	✓	✓					
CAP 142	✓	✓					
CAP 145	✓	✓					

CAP 104 - General Purpose Test Support
CAP 113 - Frequency Response Test
CAP 134 - LDB/Uplink Retrieval
CAP 135 - Computer-to-computer Retrieval Programs
CAP 136 - Block Funnel Log/GOAL Message Retrieval Program
CAP 142 - GPC Error and DUE Keystroke Data Retrieval Program
CAP 145 - Retrieval Software for user graphics

4 DAP application main menu

1.1 DAP application main menu shall provide selection to execute CAP 104.

1.2 DAP application main menu shall provide selection to execute CAP 113.

1.3 DAP application main menu shall provide selection to execute CAP 134.

1.4 DAP application main menu shall provide selection to execute CAP 135.

1.5 DAP application main menu shall provide selection to execute CAP 136.

1.6 DAP application main menu shall provide selection to execute CAP 142.
1.7 DAP application main menu shall provide selection to execute CAP 145.
1.8 DAP application main menu shall provide capability to clear text fields.
1.9 DAP application main menu shall provide help text to configure browser to run a Java Applet.

5 DAP application server - interface between RCWI and CAPs residing on the SDC

1.1 DAP application server shall convert data request from the RCWI to a format readable by CAP104.
1.2 DAP application server shall convert data request from the RCWI to a format readable by CAP113.
1.3 DAP application server shall convert data request from the RCWI to a format readable by CAP134.
1.4 DAP application server shall convert data request from the RCWI to a format readable by CAP135.
1.5 DAP application server shall convert data request from the RCWI to a format readable by CAP136.
1.6 DAP application server shall convert data request from the RCWI to a format readable by CAP142.
1.7 DAP application server shall convert data request from the RCWI to a format readable by CAP145.

6 CAP 113 - Frequency Response Test

CAP 113 provides the means to evaluate the dynamic performance of the Aerosurface, Main Propulsion System, Nose-Wheel Steering and Solid Rocket Booster Systems. Sine wave processing on current test or recall data is provided for each actuator. Step response processing is also performed on current test or recall data for each actuator, except nosewheel steering actuators. Primary Delta Pressure processing will be provided for each elevon actuator. Test results are compared with predefined minimum and maximum values to determine if the response is within acceptable limits.

1.1 RCWI shall accept a keyword, TCID, start and stop time, start and stop date, data source (CDS or SDC) and input as defined in the SDC CAP 113 requirements document.
1.2 RCWI shall convert the user request to a format which can be interpreted by the DAP application server.
1.3 RCWI shall capture errors generated by CAP 113 and display them to the screen
1.4 RCWI shall display data to the screen when requested.
1.5 RCWI shall provide capability to print data displayed in the RCWI window.
1.6 RCWI shall provide access to Data Status (DSTAT) (e.g. TCID name)
1.7 RCWI shall provide FD selection from a scrollable list that reacts to keystrokes
1.8 RCWI shall provide pull down list of TCIDs.
1.9 RCWI shall provide an interactive window between RCWI and CAP113 located on the SDC.
1.10 RCWI shall provide an indicator to the user that the CAP and RCWI are working.

7 CAP 136 - Block Funnel Log/GOAL Message Retrieval

CAP 136 provides near real-time retrieval and display of Block Funnel Logged data. The retrieved Block Funnel Log data is displayed to the user's terminal or routed to the line printer or dumped to a user file. CRT and printer output consists of both hexadecimal and ASCII versions of the data.

    1.1 RCWI shall accept a keyword, TCID, start and stop time, start and stop date, data source (CDS or SDC) and input as defined in the SDC CAP 136 requirements document.
    1.2 RCWI shall convert the user request to a format which can be interpreted by the DAP application server.
    1.3 RCWI shall capture errors generated by CAP 136 and display them to the screen.
    1.4 RCWI shall display data to the screen when requested.
    1.5 RCWI shall provide capability to print data displayed in the RCWI window.
    1.6 RCWI shall provide access to Data Status (DSTAT) (e.g. TCID name)
    1.7 RCWI shall provide FD selection from a scrollable list that reacts to keystrokes.
    1.8 RCWI shall provide pull down list of TCIDs.
    1.9 RCWI shall provide an interactive window between RCWI and CAP136 located on the SDC.
    1.10 RCWI shall provide an indicator to the user that the CAP and RCWI are working.

8 CAP 142 - GPC Error and DEU Keystroke Data Retrieval

CAP 142 provides near real-time and post-test retrieval, English translation/decoding, and CRT or line printer display of GPC Primary Avionics Support software Errors, Backup Flight Systems errors, and Display electronics Unit Keystroke messages.

    1.1 RCWI shall accept a keyword, TCID, start and stop time, start and stop date, data source (CDS or SDC) and input as defined in the SDC CAP 142 requirements document.
    1.2 RCWI shall convert the user request to a format which can be interpreted by the DAP application server.
    1.3 RCWI shall capture errors generated by CAP 142 and display them to the screen.
    1.4 RCWI shall display data to the screen when requested.
    1.5 RCWI shall provide capability to print data displayed in the RCWI window.
    1.6 RCWI shall provide access to Data Status (DSTAT) (e.g. TCID name)
    1.7 RCWI shall provide FD selection from a scrollable list that reacts to keystrokes.
    1.8 RCWI shall provide pull down list of TCIDs.
    1.9 RCWI shall provide an interactive window between RCWI and CAP142 located on the SDC.
    1.10 RCWI shall provide an indicator to the user that the CAP and RCWI are working.

9 CAP 145 - Retrieval Software for user graphics

CAP145 provides the capability to retrieve and display data in the form of a PostScript color line graph on either a Cathode Ray Tube(CRT), an 8 1/2- by 11-inch hard-copy device, or an ASCII file of PostScript commands. Both analog and discrete data types are supported by this software product. The user has the capability to tailor the output by using one or more options provided by the software.

1.1 RCWI shall accept a keyword, TCID, start and stop time, start and stop date, data source (CDS or SDC) and input as defined in the SDC CAP 145 requirements document.
1.2 RCWI shall convert the user request to a format which can be interpreted by the DAP application server.
1.3 RCWI shall capture errors generated by CAP 145 and display them to the screen.
1.4 RCWI shall display data to the screen when requested.
1.5 RCWI shall provide capability to print data displayed in the RCWI window.
1.6 RCWI shall provide access to Data Status (DSTAT) (e.g. TCID name)
1.7 RCWI shall provide FD selection from a scrollable list that reacts to keystrokes.
1.8 RCWI shall provide pull down list of TCIDs.
1.9 RCWI shall provide an interactive window between RCWI and CAP145 located on the SDC.
1.10 RCWI shall provide an indicator to the user that the CAP and RCWI are working.

10 CAP 135 - Computer-to-Computer Retrieval Program

CAP 135 retrieves CCMS CTC transaction data from LPS, and performs a decoded (interpreted) output of the transactions, in the format provided by the original requester of the program; or a standard output, in the format of the $SPCTOC program for items which are not decodable.

1.1 RCWI shall accept a keyword, TCID, start and stop time, start and stop date, data source (CDS or SDC) and input as defined in the SDC CAP 135 requirements document.
1.2 RCWI shall convert the user request to a format which can be interpreted by the DAP application server.
1.3 RCWI shall capture errors generated by CAP 135 and display them to the screen.
1.4 RCWI shall provide access to Data Status (DSTAT) (e.g. TCID name)
1.5 RCWI shall only send retrieved data to a printer due to limitations of CAP 135.
1.6 RCWI shall provide pull down list of TCIDs.
1.7 RCWI shall provide an interactive window between RCWI and CAP135 located on the SDC.
1.8 RCWI shall provide an indicator to the user that the CAP and RCWI are working.

11 CAP 134 - LDB/Uplink Retrieval

CAP 134 provides interpreted data or hex dump
data for block-funnel-logged (BFL) transactions occurring between
consoles and the LDB or Uplink Front-End Processors (FEPs).

1.1 RCWI shall accept a keyword, TCID, start and stop time, start and stop date, data source (CDS or SDC) and input as defined in the SDC CAP 134 requirements document.
1.2 RCWI shall convert the user request to a format which can be interpreted by the DAP application server.
1.3 RCWI shall capture errors generated by CAP 134 and display them to the screen. RCWI shall provide access to Data Status (DSTAT) (e.g. TCID name).
1.5 RCWI shall provide FD selection from a scrollable list that reacts to keystrokes
1.6 RCWI shall provide pull down list of TCIDs.
1.7 RCWI shall display data to the screen when requested.
1.8 RCWI shall provide capability to print data displayed in the RCWI window.
1.9 RCWI shall provide an interactive window between RCWI and CAP134 located on the SDC.

1.10 RCWI shall provide an indicator to the user that the CAP and RCWI are working.

12 CAP 104 - General Purpose Test Support

CAP 104 is composed of 18 Transaction Processor Application Programs which will retrieve and display either online data or archived data. The output will be in the form of lists or plots displayed on a cathode ray tube or a printer.

1.1 RCWI shall accept a keyword, TCID, start and stop time, start and stop date, data source (CDS or SDC) and input as defined in the SDC CAP 104 requirements document.
1.2 RCWI shall convert the user request to a format which can be interpreted by the DAP application server.
1.3 RCWI shall capture errors generated by CAP 104 and display them to the screen.
1.4 RCWI shall display data to the screen when requested.
1.5 RCWI shall provide capability to print data displayed in the RCWI window.
1.6 RCWI shall provide access to Data Status (DSTAT) (e.g. TCID name).
1.7 RCWI shall provide FD selection from a scrollable list that reacts to keystrokes
1.8 RCWI shall provide pull down list of TCIDs.
1.9 RCWI shall provide an interactive window between RCWI and CAP104 located on the SDC.
1.10 RCWI shall provide an indicator to the user that the CAP and RCWI are working.

1.2.3 Robust CAP Web Interface Performance Requirements

1 End to End Performance
1.1 RCWI shall begin displaying data within one second of receiving data from the CAPs.

1.2.4 Robust CAP Web Interface Interface Data Flow Diagrams

When executed via a Web browser such as Netscape Navigator, Netscape Communicator, Microsoft Internet Explorer or Sun Microsystems Hot Java an Applet containing the RCWI client is downloaded from the DAP server into the client machine's memory. The browser then executes the RCWI byte code which displays the Java GUI. The user submits a request for data retrieval via the GUI which is sent to the DAP application server. The DAP server communicates with the correct CAP and retrieves the data. Depending upon the requested output option the data is either displayed at the workstation or sent to the requested printer.

RCWI Interface Data Flow Diagram

KSC AREA

SDC

RCWI Client

DAP Server

GUI Window

Interactive
Window

CAP

TCID, FD etc.
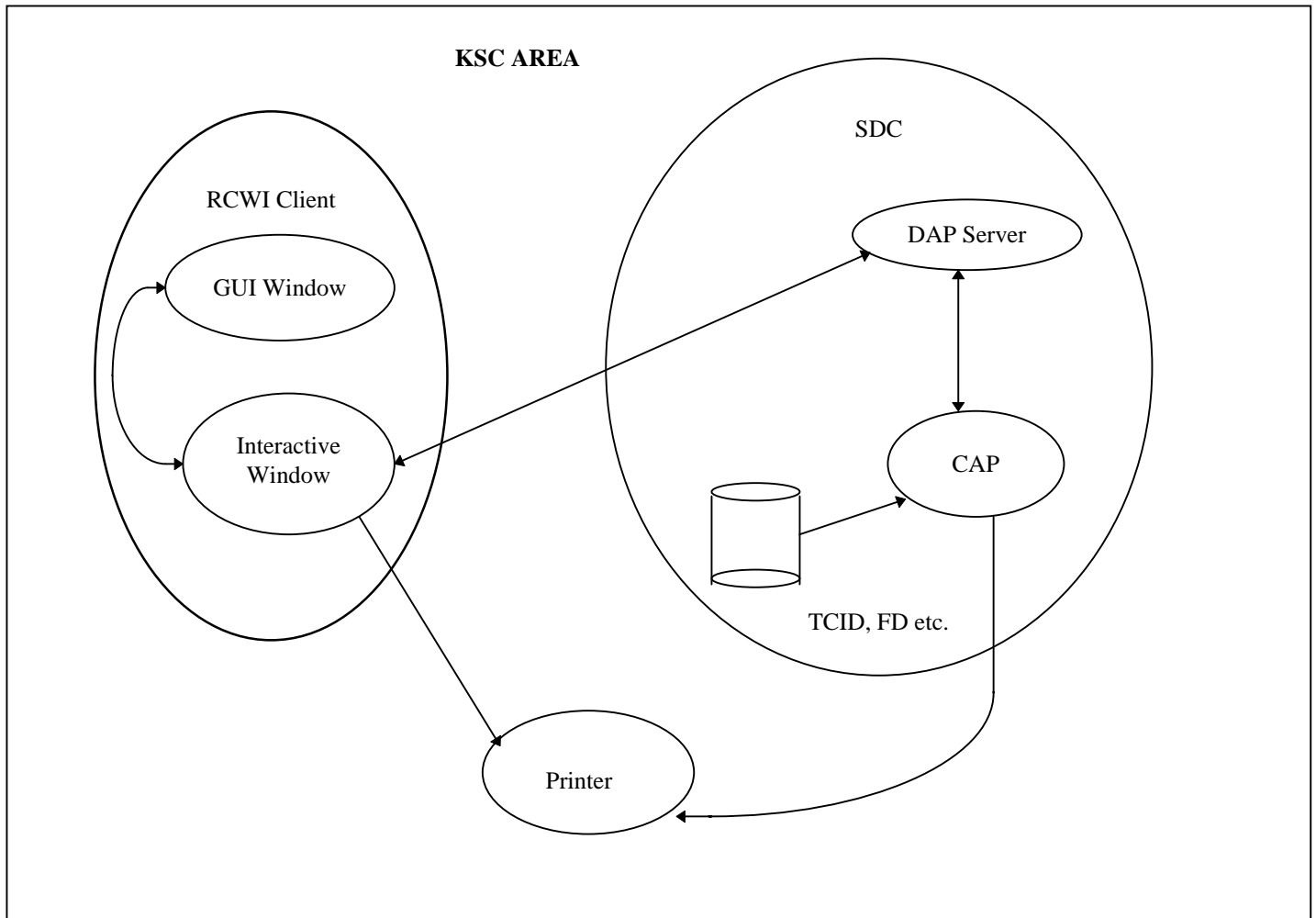
Printer

1.3 Robust CAP Web Interface Design Specification

The RCWI main function is to provide a web based Graphical User Interface for the CAP.   It will run as a Java Applet.

1.3.1 Robust CAP Interface Detailed Data Flow

User Data Request Parameters (FD, date, time etc.) are entered into the RCWI Applet. The TCID text field will display available TCIDs from the *Data Recording and Distribution* (*DRD) Data Base.* The FD text field will retrieve FD name and nomenclature from the *FD directory Data Base*. The RCWI Applet converts the information on the panel into a *DAP Application Protocol* which simulates a line entry command. The data is sent to the *DAP Application Server* which simulates *CAP Protocol* from a dumb terminal. The *CAP Program* retrieves the requested data and sends it to the *DAP Application Server* for display. If the option was to print, then the data is sent directly from the *CAP Program* to a printer selected from a list of available printers from the Applet. These available printers are under the control of the USA DAP application group and cannot be modified by the RCWI. If the retrieved data is to be displayed, the *DAP Application Server* forwards the data to the *RCWI.* If the user desires to print the displayed data it can be sent to the users default local or network printer.

Robust CAP Interface Detailed Data Flow Diagram

FD directory DB

DRD DB

User Data Request Parameters

ASCII Data

ASCII Data

DAP Application Protocol

Printer (Displayed Data)

RCWI

ASCII Data

DAP Application Server

CAP Protocol (Dumb Terminal)

ASCII Data

Display

ASCII Data

CAP Program

ASCII Data

Printer
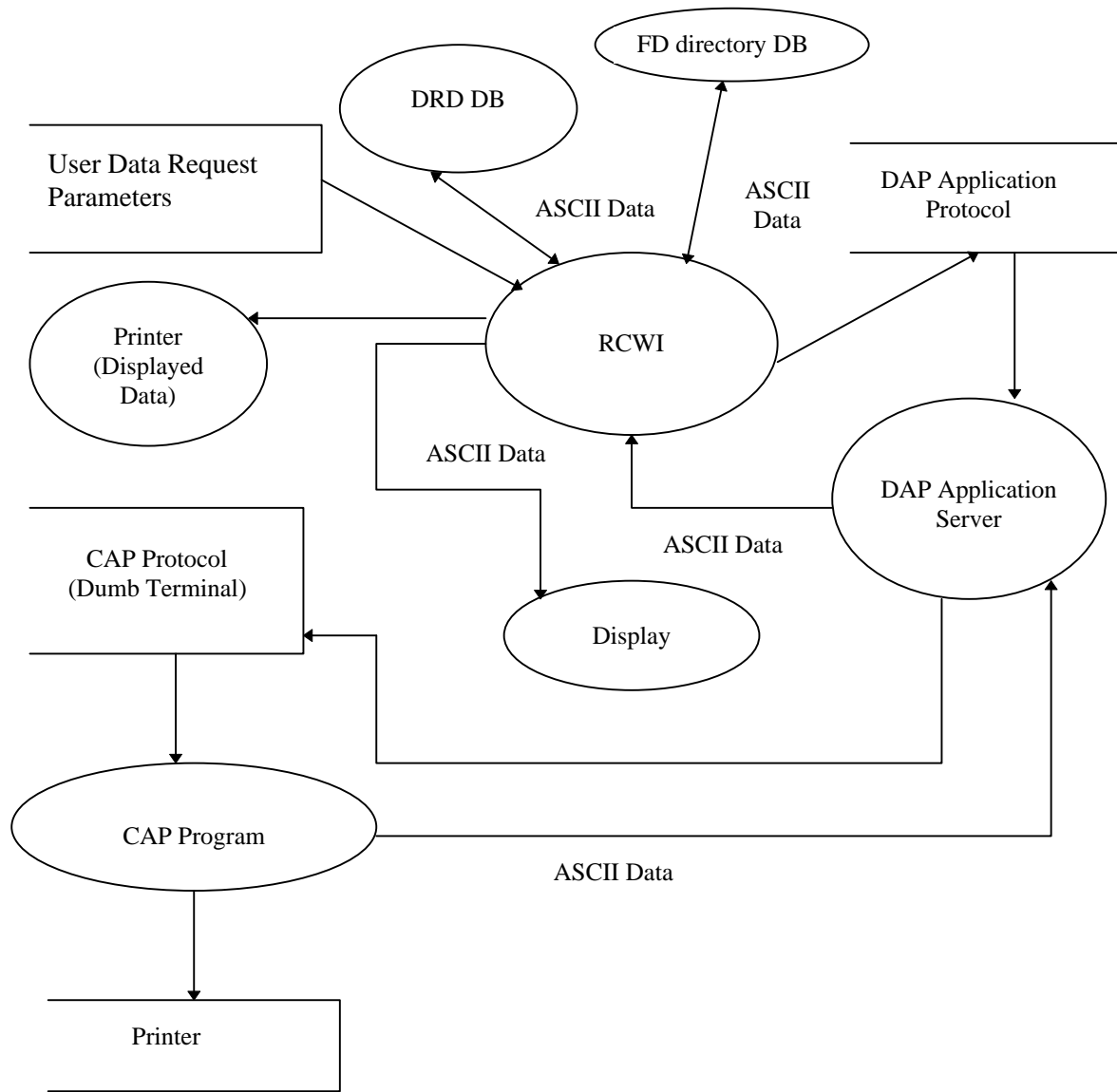
1.3.2 Robust Web Interface External Interfaces

The RCWI has three external interfaces.

1. DAP application server. This server accepts the data request from the RCWI and emulates a dumb terminal to communicate with the appropriate CAP.

2. Data Retrieval and Distribution (DRD) data base. This data base contains the online TCIDs.

3. FD directory data base. This data base contains the FD name and nomenclature associated with the selected TCID.

1.3.2.1 Robust CAP Web Interface Message Formats

1.3.2.1.1 Informational Messages:

- Successful Network Connection - RCWI was able to connect to the DAP server.
- Successful Data Retrieval - The CAP was able to retrieve the data.
- Data request query in progress - The CAP is currently processing the data.
- System messages - The RCWI will display system information messages.

1.3.2.1.2 Warning Messages:

- Java Warning Messages - Created by Java
- System messages - The RCWI will display system warning messages.

1.3.2.1.3 Error Messages:

- Unable to connect - RCWI was unable to connect to the Shuttle Data Center server.
- Java Error Exceptions - Created by Java
- System messages - The RCWI will display system warning messages.

1.3.2.2 Robust CAP Web Interface Display Formats

Main Menu (The CAP numbers will be replaced with the CAP nomenclature.)
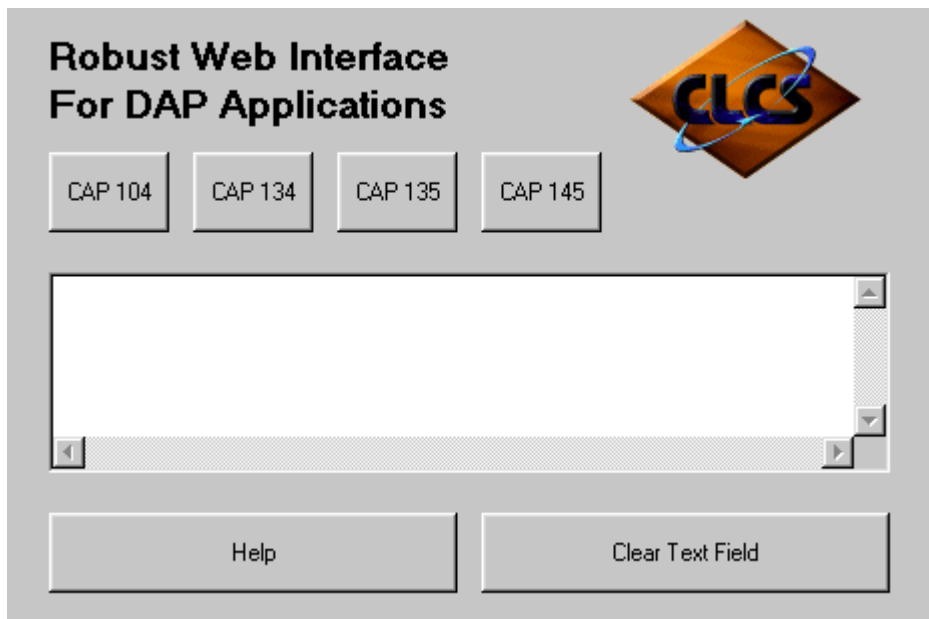
RCWI for CAP 104

The RCWI will accept keyword commands, TCID, start and stop parameters for date, start and stop parameters for time, data source and function designators via a graphical user interface (GUI). Text boxes will be used for keyword, TCID, date , time and function designator fields. Radio buttons will be used for the data source. The TCID text field will interface with an online data base containing the available TCIDs with date and time. The function designator text field will interface with a data base containing function designator identification and nomenclature. RCWI will convert the information into a format described in the SDC CAP 104 user guide. The parameters are forwarded to a *Data Analysis and Presentation (*DAP) application server. This server emulates a command line entry from a dumb terminal.   The server initializes CAP 104 residing on SDC and executes the requested command. The data is either directed to a display or printer via CAP 104.

CAP 104

General Purpose Retrieval Routine

List Change

CLCS

TCID

[   ]

FD1 [   ]

Start Time   Stop Time

[   ]   [   ]

FD2 [   ]

Start Date   Stop Date

[   ]   [   ]

FD3 [   ]

FD4 [   ]

Data Sources

FD5 [   ]

○ CDS   ○ SDC

○ KCQ   ○ KCT   ○ KCR

FD6 [   ]

○ Primary   ○ Secondary

[Execute]   [Reset]   [Help]

CAP 113
At this time the interface has not been development.

RCWI for CAP 113
The RCWI will accept keyword commands, TCID, start and stop parameters for date, start and stop parameters for time, data source and function designators via a graphical user interface (GUI). Text boxes will be used for keyword, TCID, date , time and function designator fields. Radio buttons will be used for the data source. The TCID text field will interface with an online data base containing the available TCIDs. The function designator text field will interface with a data base containing function designator identification and nomenclature. RCWI will convert the information into a format described in the SDC CAP 113 user guide. The parameters are forwarded to a *Data Analysis and Presentation (*DAP) application server. This server emulates a command line entry from a dumb terminal.   The server initializes CAP 113 residing on SDC and executes the requested command. The data is either directed to a display or printer via CAP 113.

RCWI for CAP 134
The RCWI will accept keyword commands, TCID, start and stop parameters for date, start and stop parameters for time, data source and function designators via a graphical user interface (GUI). Text boxes will be used for keyword, TCID, date , time and function designator fields. Radio buttons will be used for the data source. The TCID text field will interface with an online data base containing the available TCIDs. The function designator text field will interface with a data base containing function designator identification and nomenclature. RCWI will convert the information into a format described in the SDC CAP 134 user guide. The parameters are forwarded to a *Data Analysis and Presentation (*DAP) application server. This server emulates a command line entry from a dumb terminal.   The server initializes CAP 134 residing on SDC and executes the requested command. The data is either directed to a display or printer via CAP 134.
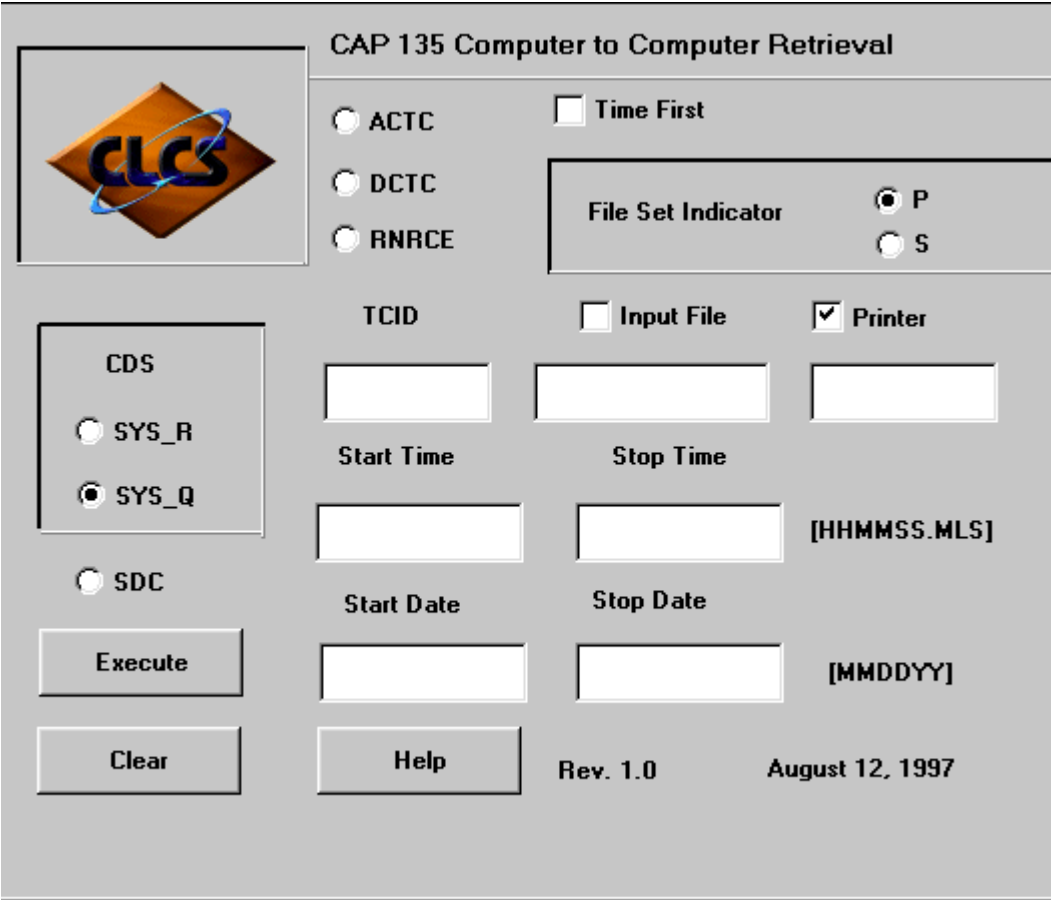
RCWI for CAP 135

The RCWI will accept keyword commands, TCID, start and stop parameters for date, start and stop parameters for time and data source via a graphical user interface (GUI). Text boxes will be used for keyword, TCID, date and time fields. Radio buttons will be used for the data source. The TCID text field will interface with an online data base containing the available TCIDs. RCWI will convert the information into a format described in the SDC CAP 135 user guide. The parameters are forwarded to a *Data Analysis and Presentation (*DAP) application server. This server emulates a command line entry from a dumb terminal. The server initializes CAP 135 residing on SDC and executes the requested command. The data is directed to a printer via CAP 135.

RCWI for CAP 136
The RCWI will accept keyword commands, TCID, start and stop parameters for date, start and stop parameters for time, data source and function designators via a graphical user interface (GUI). Text boxes will be used for keyword, TCID, date , time and function designator fields. Radio buttons will be used for the data source. The TCID text field will interface with an online data base containing the available TCIDs. The function designator text field will interface with a data base containing function designator identification and nomenclature. RCWI will convert the information into a format described in the SDC CAP 136 user guide. The parameters are forwarded to a *Data Analysis and Presentation (*DAP) application server. This server emulates a command line entry from a dumb terminal.   The server initializes CAP 136 residing on SDC and executes the requested command. The data is either directed to a display or printer via CAP 136.

RCWI for CAP 142

The RCWI will accept keyword commands, TCID, start and stop parameters for date, start and stop parameters for time, data source and function designators via a graphical user interface (GUI). Text boxes will be used for keyword, TCID, date , time and function designator fields. Radio buttons will be used for the data source. The TCID text field will interface with an online data base containing the available TCIDs. The function designator text field will interface with a data base containing function designator identification and nomenclature. RCWI will convert the information into a format described in the SDC CAP 142 user guide. The parameters are forwarded to a *Data Analysis and Presentation (*DAP) application server. This server emulates a command line entry from a dumb terminal. The server initializes CAP 142 residing on SDC and executes the requested command. The data is either directed to a display or printer via CAP 142.

CAP 142: GPC ERROR and DEU KEYSTROKE Message Retrieval Program

Keyword: [RGE ▼]   TCID: [ ]   Date (MMDDYY): [ ]

Start Time: [ ]   Stop Time: [ ]

Time Homogeneous Data Set(s)/THDS:

Retrieval Type: [▼]

Major Function: ○ PL   ○ GNC   ○ SM   ○ OPS 0   ○ BFS

Select Up to 6 THDS: [ ]

Error Type: [▼]   Configuration: [▼]

◉ SDC
○ CDS-Q   ○ CDS-R   [EXECUTE]   [CLEAR]   [HELP]
○ Primary   ○ Secondary

Command Line Entry: [ ]

RCWI for CAP 145
The RCWI will accept keyword commands, TCID, start and stop parameters for date, start and stop parameters for time, data source and function designators via a graphical user interface (GUI). Text boxes will be used for keyword, TCID, date , time and function designator fields. Radio buttons will be used for the data source. The TCID text field will interface with an online data base containing the available TCIDs. The function designator text field will interface with a data base containing function designator identification and nomenclature. RCWI will convert the information into a format described in the SDC CAP 145 user guide. The parameters are forwarded to a *Data Analysis and Presentation (*DAP) application server. This server emulates a command line entry from a dumb terminal.   The server initializes CAP 145 residing on SDC and executes the requested command. The data is either directed to a display or printer via CAP 145.

1.3.2.3 Robust CAP Web Input Formats

RCWI for CAP 104: *TCID, Start time, Stop time, Start date, Stop date.* Reference the SDC CAP 104 user guide for data source, output options and functionality.

RCWI for CAP 113: *TCID, Start time, Stop time, Start date, Stop date.* Reference the SDC CAP 113 user guide for data source, output options and functionality.

RCWI for CAP 134: *TCID, Start time, Stop time, Start date, Stop date.* Reference the SDC CAP 134 user guide for data source, output options and functionality.

RCWI for CAP 135: *TCID, Start time, Stop time, Start date, Stop date.* Reference the SDC CAP 135 user guide for data source, output options and functionality.

RCWI for CAP 136: *TCID, Start time, Stop time, Start date, Stop date.* Reference the SDC CAP 136 user guide for data source, output options and functionality.

RCWI for CAP 142: *TCID, Start time, Stop time, Start date, Stop date.* Reference the SDC CAP 142 user guide for data source, output options and functionality.

RCWI for CAP 145: *TCID, Start time, Stop time, Start date, Stop date.* Reference the SDC CAP 145 user guide for data source, output options and functionality.

1.3.2.4 Robust CAP Web Interface Recorded Data

RCWI does not record data

1.3.2.5 Robust CAP Web Printer Formats

The current printing formats of SDC CAP 104, CAP 113, CAP 134, CAP 135, CAP 136, CAP 142 and CAP 145 will be supported.

The display print option will format the data as viewed in the display window.

1.3.2.6 Interprocess Communication (C-to-C Communications)

1. DAP application server

This command line is sent from the RCWI to the DAP application server. The DAP application server uses this information to emulate a dumb terminal to communicate with the CAP.

```
 /home/fs/sdc2/dap/val/cmds/rl2&lc sa082b1  ;085510,085700,021197;
-ds s -fs p -sys r&64&TEXT&/home/fs/sdc2/dap/val/data&rl2&/home/fs/sdc2/dap/val/cmds&sdc1
&sdc2&9006
```

1) Path to application object: /home/fs/sdc2/dap/val/cmds/rl2

2) Keyword, TCID, timespan, options: &lc sa082b1 ;085510,085700,021197;-ds s
-fs p -sys r

3) Number of characters in second parameter: &64

4) Display type: &TEXT

5) Path to data files: &/home/fs/sdc2/dap/val/data

6) Name of program: &rl2

7) Path to command file: &/home/fs/sdc2/dap/val/cmds

8) Primary machine: &sdc1

9) Secondary machine: &sdc2

10) Port: &9006

1.3.2.7 Robust CAP Web Interface External Interface Calls

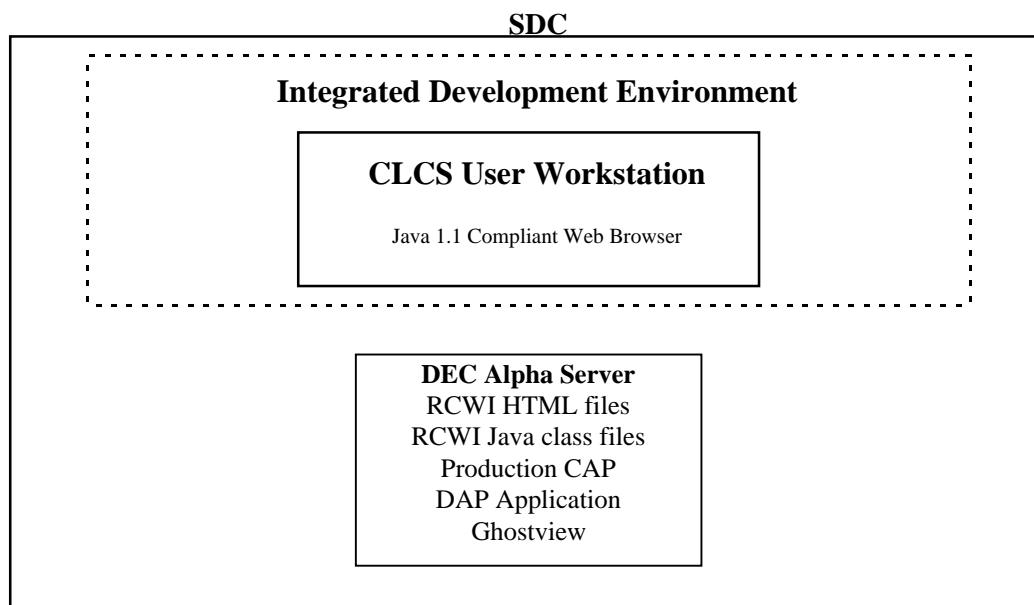The RCWI will execute a SQL query against the DRD data base to retrieve a list of the available TCIDs.

The RCWI will execute a SQL query against the FD directory data base to retrieve a list of the FD names and nomenclature by TCID.

1.3.2.8 Robust CAP Web Interface Table Formats

None

1.3.3 Robust CAP Web Interface Test Plan

The following is a diagram of the test environment.

SDC

Integrated Development Environment

CLCS User Workstation

Java 1.1 Compliant Web Browser

DEC Alpha Server
RCWI HTML files
RCWI Java class files
Production CAP
DAP Application
Ghostview

3.1 The following hardware is needed for the Robust CAP Web Interface:

- A CLCS workstation in the Integrated Development Environment.
- A DEC Alpha Server
- Printer

3.2 The following software configuration will be needed on the CLCS workstation:

- A JDK 1.1 compliant web browser (e.g. Netscape Navigator 4.0 with JDK 1.1 patch)
- Configure web browser to launch ghostview.

3.3 The following software configuration will be needed on the DEC Alpha server:

- Completed versions of CAP 104, CAP 113, CAP 134, CAP 135, CAP 136, CAP 142 and CAP 145 as shown in the DAP USA weekly status report under column Estimated Complete Date (ECD).
- Ghostview
- RCWI Java class files
- RCWI HTML files
- DAP application software

3.4 The following data base will be needed:
- DRD
- FD directory

3.5 The following personnel are needed to perform the test:

- Quality
- CSCI Lead
- Developer

3.6 Test Plan Objectives:
- Verify that RCWI contains al the required screens and displays.
- Verify that RCWI sends correct data to the CAP.
- Verify that RCWI prints the displayed data.

Appendix A

Data Analysis and Presentation Data Sources (Support for Thor)

	CDS CCMS Historical	SDC CCMS Historical	SDC CLCS Historical	SDS CCMS Real-time	SDS' CCMS et al Real-time	SCAN Server CCMS Real-time	SDS CLCS Real-time
RCWI	✓	✓	* FD only				
ADAT		✓	✓				
RDP		* FD only	✓				
PAT		✓	*	✓	*		*
JView		✓	*	✓	✓	✓	*
ANNT		✓	*	✓	*		*

RCWI - Robust CAP Web Interface
ADAT - Advanced Data Analysis Tool
RDP   - Retrieved Data Presentation
PAT   - Propulsion Advisory Tool
JView - JView (Java Version of PCGOAL)
ANNT - APU Neural Net Tool

* indicates potential future supported data source.